

REMARKS

Claims 1-19 and 21-23 are pending in the application. Claims 1-3, 6, 9, 10, 15 and 21 are amended and claim 20 is canceled without prejudice or disclaimer. A marked-up copy of the amended claims is attached hereto. Support for the amended claims is provided in at least Figures 3, 5 and 6, and the description thereof. No new matter has been added. Reconsideration of the application in light of the above amendments and the following remarks is respectfully requested.

§ 112 Rejection

Claim 3 has been rejected under 35 U.S.C. § 112, ¶ 2 for indefiniteness. Specifically, the Examiner objects to the term "polychloride." Claim 3 is amended above to recite "polyvinyl chloride," which Applicant submits has a clear meaning and overcomes the rejection. A similar amendment has been made to claim 15 for purposes of consistency. Thus, reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, ¶ 2 is respectfully requested.

§ 102 Rejection

Claims 10, 11, 20, and 21 have been rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,997,747 to Jowett ("Jowett"). This rejection is respectfully traversed.

The invention of claims 10-23 is directed to a self contained filter for a recirculating tank used in a septic system. The tank, itself, includes troughs on the side and bottom thereof. The troughs are used for ventilation and drainage. In prior art systems, septic water has a tendency to pond on the bottom of the tank which diminishes the efficiency of the system. Also, oxygen does not have a good pathway to the bottom of the tank in these prior art systems. To compensate for this ponding effect, prior art systems typically use piping systems at the bottom of the tank. The piping system is cumbersome to install, has a tendency to fail after years of use and is expensive. It is further noted that when the piping does fail, the entire system must be disassembled, retrofitted with new pipes and then reassembled. Not only is this an expensive procedure, it also requires that the system be "off-line" until such procedure is completed. However, in the present system, the tank includes troughs which permit the drainage and ventilation of the system. This

clearly provides many advantages including (i) ease of manufacturing, (ii) ease of assembly at the site, (iii) less maintenance and the like. It is also submitted that the self contained filter of the present invention is a mattress-like filter made of woven material encapsulating aggregate material therein which, again, requires less assembly time at the installation site and easy removal for maintenance reasons.

In rejecting the claimed invention, the examiner asserted that the Jowett reference includes all of the features of the claimed invention. Applicant notes that in order to reject a claim under 35 U.S.C. §102, a single prior art reference must explicitly or inherently disclose each and every element of the claimed invention. MPEP § 2131 (citing Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631 (Fed. Cir. 1987)). Applicant submits that the Jowett reference does not show all of the features of the claimed invention.

As discussed above, claim 10 recites (i) a tank having troughs integrally formed in at least the bottom and sides thereof and (ii) at least one mattress-like filter placed within the tank having aggregate material sealed therein. These features can be seen in Figures 3, 5 and 6. As can be seen in Figures 5 and 6, the troughs of the tank are on the sides and bottom thereof. In Figure 3, the aggregate material is sealed in the woven fabric or synthetic cloth. The aggregate is, by way of example only, sand or gravel. Preferably, the size of the weave is smaller than the size of the aggregate. (Applicant's Specification at pp.5-6.)

Jowett does not teach a tank having troughs on the side and bottom thereof. In fact, directing the Examiner's attention to Figures 1-3, the Jowett reference clearly shows a tank only with smooth walls and a smooth bottom. There are no troughs. Nor does the disclosure of Jowett refer to the tank as having troughs. As a result, ponding and poor oxygen concentrations may result at the bottom of the Jowett tank. Applicant also submits that Jowett does not show a mattress-like filter with aggregate material sealed therein. Instead, Jowett primarily teaches the use of foam or sponge blocks with iron oxide (Jowett at col.5, lines 34-35.) In Figure 5, the iron oxide is provided within a bag disposed between blocks. (Jowett at col.7, lines 33-36.) The iron oxide particles precipitate iron phosphate. (Jowett at col.5, lines 54-64.) In contrast, the present invention uses aggregate material for a biological process; that is, the aggregate material allows bacteria to thrive thereon and thus allow for filtration via a biological process. This is not accomplished via the iron oxide of the Jowett reference, which is merely a chemical process.

Accordingly, even assuming *arguendo* that a bag is equivalent to a mattress-like filter, Jowett still fails to teach “aggregate material sealed therein[,]” as recited in claim 10, as the iron oxide taught by Jowett is not equivalent to the aggregate recited in the present invention. Thus, Jowett does not teach “at least one mattress-like filter...having aggregate material sealed therein.” Since Jowett does not teach each and every feature recited in claim 10, it cannot properly form the basis of a rejection under 35 U.S.C. § 102(b). Nor can it form the basis of a rejection of dependent claims 11, 20, and 21.

Reconsideration and withdrawal of the rejections of claims 10, 11, 20, and 21 under 35 U.S.C. § 102(b) is therefore respectfully requested.

§ 103 Rejections

Claims 22 and 23 have been rejected under 35 U.S.C. § 103 as obvious over Jowett. Claims 1, 7-9, and 17-19 have been rejected under 35 U.S.C. § 103 as obvious over Jowett in view of U.S. Patent No. 4,543,013 to Wagner et al. (“Wagner”). Claims 1-3, 7-11, 14, 15, and 17-23 have been rejected under 35 U.S.C. § 103 as obvious over U.S. Patent No. 5,480,561 to Ball (“Ball”) in view of Jowett and Wagner. Claims 4-6, 12, 13, and 16 have been rejected under 35 U.S.C. § 103 as obvious over Ball, Jowett, and Wagner in view of U.S. Patent No. 3,814,247 to Hirs (“Hirs”). These rejections are respectfully traversed.

To establish a *prima facie* case of obviousness, the Examiner must demonstrate that each and every feature of the claimed invention is taught or suggested by the combination of prior art references. MPEP § 2143.03. Applicant contends that the Examiner has failed to carry these burdens.

Applicant has already pointed out that Jowett fails to teach or suggest each and every feature recited in claim 10, from which claims 11-23 depend. Accordingly, those claims dependent from claim 10 are also distinguishable over the applied prior art references and are in condition for allowance.

As to claim 1, it is submitted that claim 1 recites, in part,

a first sized aggregate material;
a second sized aggregate material;

a first mattress-like woven material encapsulating
the first sized aggregate material; and
a second mattress-like woven material
encapsulating the second sized aggregate material, the
second mattress-like woven material being positioned on
the first mattress-like woven material ...

As previously discussed, Jowett teaches foam blocks and bags filled with iron oxide. Jowett does not teach the use of aggregate materials much less the use of different sized aggregate materials in different mattress-like woven materials which encapsulate the different sized aggregate material. Nor are these features found or alluded to in Wagner, which contemplates separating layers of treatment material with layers of fabric. (Wagner at col.3, lines 20-50.) It should be clear to the Examiner that the advantages of using mattress-like filters, namely simplicity of transportation and installation, elimination of migration of the aggregate material and ease of maintenance cannot be achieved by layering fabric and treatment material as in Wagner. Nor will a layering of fabric and treatment material prevent channeling or compaction.

The claimed features are also nowhere taught or suggested by Ball or Hirs. Rather, Balls and Hirs both teach sand filters similar to those described in the Background Description. That is, Balls and Hirs both teach several layers of manually disposed aggregate within a tank. (Compare Applicant's Specification at pp.1-2 with Balls at Figure 1 and Hirs at Figure 3.) This structure is subject to all the disadvantages of the prior art, namely migration, compaction, and channeling. Furthermore, the structures of Balls and Hirs do not achieve the portability and simplicity of installation of the present invention. By sealing the aggregates in separate mattress-like filters, migration between layers is advantageously prevented. Thus, the prior art references cited by the Examiner do not teach at least two mattress-like filters placed within the tank which have different sized aggregate material sealed therein. Thus, the rejection under 35 U.S.C. § 103 is moot and should be withdrawn.

The patented invention is further distinguished over the prior art cited by the Examiner. Claim 4, for example, recites that the "particles have a specific gravity of approximately .9 +/- 3%." As noted in the specification, such particles have a tendency to float, thereby minimizing

compaction of the aggregate and channeling. (Applicant's Specification at p.6.) This reduces the need to replace the aggregate periodically. By contrast, the references cited by the Examiner contemplate periodic replacement of the filtering material. (E.g., Jowett at col.6, lines 57-59.) As noted above, the present invention does not require periodic replacement of the filters because of the specific gravity of aggregate used. Thus, the prior art combinations asserted by the Examiner teach away from the claimed invention, and therefore cannot render the claimed invention obvious.

Applicant thus requests withdrawal of the rejections under 35 U.S.C. § 103.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the claimed invention is patentably distinguished over the asserted prior art reference and that the application stands in prima facie condition for allowance. It is respectfully requested that the application be reconsidered, that all rejections be withdrawn, that all pending claims be allowed, and that the application be passed to issue. The Examiner is requested to contact the undersigned at the telephone number listed below, if necessary. If an extension of time is necessary, a written conditional petition therefor under 37 C.F.R. § 1.136(a) is hereby made. Authorization is granted to charge any required fees to Attorneys' Deposit Account 23-1951. Please credit any overpayment in fees to the same deposit account.

Respectfully submitted,



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APPENDIX

Marked Up Copy of Amended Claims

1. (Amended) A filter for use in a recirculating tank, comprising:
 a first sized aggregate material; [and]
 a second sized aggregate material;
 a first mattress-like woven material encapsulating the first sized aggregate material; and
 a second mattress-like woven material encapsulating the second sized aggregate material,
 the second mattress-like woven material being positioned on the first mattress-like woven
 material,
 wherein a weave of both the first mattress-like and second mattress-like woven material
 comprises woven material [being] smaller than the first and second sized aggregate material,
 respectively, thereby preventing migration of the first and second sized aggregate material.
2. (Amended) The filter of claim 1, wherein the first and second aggregate material is synthetic particles.
3. (Amended) The filter of claim 2, wherein the synthetic particles are propylene or [polychloride] polyvinyl chloride.
6. (Amended) The filter of claim 1, wherein the first and second aggregate material ranges in diameter from .05mm to 1 ½ inches diameter.
9. (Amended) The filter of claim 1, wherein only a single sized aggregate is encapsulated in each of first and second mattress-like [the] woven cloth.
10. (Amended) A recirculating filter system adapted for use in a septic system, comprising:
 a tank having troughs integrally formed in at least the bottom and sides thereof;

at least one mattress-like filter placed within the tank, the mattress-like filter having aggregate material sealed therein.

15. (Amended) The recirculating filter system of claim 14, wherein the synthetic particles are propylene or [polychloride] polyvinyl chloride.

21. (Amended) The recirculating filter system of claim [20] 10, further comprising a sheet placed over the troughs of the side of the tank.